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EXAMINER	
VERBITSKY, GAIL KAPLAN	

ART UNIT	PAPER NUMBER
2859	

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/736,766	HABBOOSH, SAMIR W.	
	Examiner	Art Unit	
	Gail Verbitsky	2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07/26/2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-81* is/are pending in the application.

4a) Of the above claim(s) *82 and 83* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-81* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *82 and 83* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *04/11/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities: the second occurrence of "at least" in line 10 should be deleted. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-8, 14-17, 26, 29-30, 53-56, 61 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Bjornson (U.S. 3462318).

Bjornson discloses in Fig. 1 a thermocouple comprising first and second electrically conductive components making a junction 3. The components, inherently, comprise dissimilar metals, which can be platinum-rhodium, iridium-rhenium, tungsten-rhenium (noble) metals coated (made) with zirconia (zirconium oxide sheath) 9 (col. 2, lines 41-45). The device further comprises lead wires (wound conductors 1, 2) to, inherently, transmit the temperature related voltage signal (voltage varying as a function of temperature) to a voltage metering device (transducer), as very well known in the art of thermocouples.

For claim 2: the second component can be iridium-rhenium, thus, comprising rhenium, which is a part of a first component, when the first component is tungsten-rhenium.

For claims 4, 6: the first component can be platinum-rhodium.

For claim 5: the second component can be platinum-rhodium.

For claims 7-8: the second component can be platinum-rhodium alloy, inherently, comprising rhodium.

The method steps will be met during the normal manufacturing process of the device stated above.

4. Claims 1-8, 14-17, 26, 29-30, 53-56, 61 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Stroik (U.S. 3970481).

Stroik discloses a thermocouple comprising first and second electrically conductive components made of platinum (first component) and platinum-rhodium alloy (second component) having a thermocouple junction, wherein each component is made with (insulated with) zirconium oxide.

The device further comprises lead wires, as shown in Fig. 1 to, inherently, transmit the temperature related voltage signal (voltage varying as a function of temperature) to a voltage-metering device (transducer), as very well known in the art of thermocouples.

For claims 2, 5: the second component can be platinum.

For claims 4, 6: the first component can be platinum-rhodium.

For claim 5: the second component can be platinum-rhodium.

For claims 7-8: the second component can be platinum-rhodium alloy, inherently comprising rhodium.

The method steps will be met during the normal manufacturing process of the device stated above.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-8, 29, 31-35, 53-56, 61 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Hill (U.S. 3049577) in view of Teague (U.S. 3137766) and Rizzolo (U.S. 4018624).

For claims 2- 8: Hill discloses in Figs. 1-3 a thermocouple comprising two (first and second) electrically conductive components (legs) 1 and 2 having a junction (contact) 3. The second component 2 comprising Pt/Rh alloy (second noble), the first component comprises a (first noble) platinum (different from the second noble metal) in a platinum sheath. The second component also comprises a first noble metal (platinum)

Hill does not explicitly teach a metal oxide, as stated in claim 1. Hill does not explicitly teach a pair of lead wires connected to the first and the second components, as stated in claim 1.

Teague discloses a wire for a thermocouple used at high temperature. The wire comprises platinum or platinum alloy (platinum family including ruthenium and rhodium) core wire covered with zirconium oxide coating, as shown in Fig. 3.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to cover the core wires of the first component with zirconium oxide coating, as taught by Teague, so as to produce a component wire being capable to withstand high temperatures, as already suggested by Teague.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to cover the core wires of the second component with zirconium oxide coating, as taught by Teague, so as to produce a component wire being capable to withstand high temperatures, as already suggested by Teague.

Rizzolo discloses a thermocouple having two components (first and second) joined together, the device comprises a wire sheath and a mineral insulation between the wire and the sheath, the mineral insulation is zirconium oxide. The device also comprising a voltage-sensing device (transducer) attached to the thermocouple lead wires (col. 6, line 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add lead wires connecting/ leading to a voltage sensing device, to the device disclosed by Hill, so as to allow the operator to visually assess the temperature being measured, as very well known in the art.

With respect to the particular material to make the insulation, i.e., magnesia or alumina, as stated in claims 33-35: the use of the particular material, for the insulation, absent any criticality, is only considered to be the "optimum" material that a person having ordinary skill in the art at the time the invention was made using routine experimentation would have found obvious to provide for the probe element disclosed by Hill, Teague and Rizzolo since it has been held to be a matter of obvious design choice and within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use of the invention. In re Leshin, 125 USPQ 416.

The method steps will be met during the normal manufacturing process of the device stated above.

7. Claims 22-26, 29, 32-34, 58 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Bjornson as applied to claims 1-8, 14-17, 26, 29-30, 53-56, 61 above, and further in view of Piai (U.S. 4989992).

Bjornson discloses the device as stated above in paragraph 3.

Bjornson does not explicitly teach the limitations of claims 22-25,32-34.

Piai discloses a device comprises a thermocouple, inherently, having two electrically conductive components, inherently, made of dissimilar materials (platinum/ platinum-rhodium) making a junction 13. Piai teaches to enclose the components in a sheath/ covering 16 separated from the wires by a ceramic electrical and thermal insulation (alumina and zirconia, col. 2, lines 40-41) 14. The thermocouple 3 is connected to electronics (conditioner) 4 (col. 3, lines 1-7 and col. 4, lines 1-5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a conditioner electronics, as taught by Piai, so as to provide the device with a proper interface and make a temperature related signal well corresponding to the temperature being measured, so as to have adequate voltage/ power readable by an electronic circuit, in order to provide the operator with a correct temperature related data.

The method steps will be met during the normal manufacturing process of the device stated above.

8. Claims 18-21, 57 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Bjornson as applied to claims 1-8, 14-17, 26, 29-30, 53-56, 61 above, and further in view of MacRitchie et al. (U.S. 3270547).

Bjornson discloses the device as stated above in paragraph 3.

Bjornson does not explicitly teach the limitations of claims 18-21 and 57.

MacRitchie teaches to calibrate thermocouples by using standard temperature established by the National Bureau of Standards, inherently, used by National Institute of Standard, aka NIST.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to calibrate the thermocouple using standards, as taught by MacRitchie, in order to achieve more accurate results of measurements, as very well known in the art.

With respect to claim 20: the choice of using the International System of Standards International Electrotechnical Commission reference), as stated in claim 71, to calibrate thermocouple, absent any criticality, is only considered to be the "preferred" or "optimum" system of standards that a person having ordinary skill in the art at the time the invention was made would have been able to determine using routine experimentation based, among other things, on the intended use of the device, i.e., use the device in Europe would require its calibration according to International Standards. See In re Bosch, 205 USPQ 215 (CCPA 1980).

The method steps will be met during the normal manufacturing process of the device stated above

9. Claims 32-35, 37 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Bjornson as applied to claims 1-8, 14-17, 26, 29-30, 53-56 and 61 above, and further in view of Stevenson et al. (U.S. 6302578) [hereinafter Stevenson].

Bjornson discloses the device as stated above in paragraph 3.

Bjornson does not explicitly teach the limitations of claims 32-35, 37.

Stevenson discloses a thermocouple whose first and second electrically conductive components having an inner protective sheath (refractory insulation) made of alumina or magnesia or a mixture thereof, and an outer protective sheath. Stevenson states that the thermocouple protected in such protection sheath would be able to withstand high

(1700 F) temperatures (col. 4, line 18).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add an insulation protective sheath and an outer protective sheath onto the conductor, as taught by Stevenson, so as to have a better protection of the conductor in a high temperature harsh corrosive environment and to avoid shorting of the conductor, as very well known in the art.

The method steps will be met during the normal manufacturing process of the device stated above.

10. Claims 27-28, 36 and 62-63 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Bjornson as applied to claims 1-8, 14-17, 26, 29-30, 53-56, 61 above, and further in view of Hines (U.S. 3767470).

Bjornson discloses the device as stated above in paragraph 3.

Bjornson does not explicitly teach the limitations of claims 27-28, 36, 62-63.

Hines teaches a heat flow (heat flux) sensor comprising an array of parallel (or serially) connected thermocouples (thermopile) deposited onto a substrate.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by Bjornson, so as to make a heat flux sensor comprising a thermopile engaging the thermocouples, disclosed by Bjornson, so as to use the device comprising a thermocouple for measuring a heat flux, as very well known in the art.

The method steps will be met during the normal manufacturing process of the device stated above.

11. Claim 31 is finally rejected under 35 U.S.C. 103(a) as being unpatentable over Bjornson as applied to claims 1-8, 14-17, 26, 29-30, 53-56, 61 above, and further in view of Stansfeld et al. (U.S. 5423610) [hereinafter Stansfeld].

Bjornson discloses the device as stated above in paragraph 3.

Bjornson does not explicitly teach the limitations of claim 31.

Stansfeld discloses in Fig. 7 a thermocouple having a high temperature alloy sheath housing both (at least one) thermocouple components.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the sheath disclosed by Bjornson with a high temperature alloy sheath, as taught by Stansfeld, so as to better protect the thermocouple elements from hot and harsh corrosive environment.

The method steps will be met during the normal manufacturing process of the device stated above.

12. Claims 9-13 and 59-60 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over unpatentable Bjornson in view of Braun et al. (U.S. 6129997) [hereinafter Braun].

Bjornson discloses the device as stated above in paragraph 3.

Bjornson does not explicitly teach the limitations of claim 9-13 and 51-52. Braun discloses a device/ method of manufacturing a material to be used at high temperatures. The material Pt/Rh alloy or an alloy comprising platinum and base metal content wherein a shaped body of platinum material dispersion hardened by finely divided small particles of a base metal oxide wherein the base metal oxide is yttrium. Wherein said body of platinum material is provided inside a tube (main body, noble metal), so as yttrium oxide particles (inherently within the grain boundaries) contained in the oxide dispersion hardened alloy, as very well known in the art.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the method, as taught by Braun, to make the device, disclosed by Bjornson, so as to obtain a thermocouple capable to sustain high temperatures in a harsh corrosive environment.

The method steps will be met during the normal manufacturing process of the device stated above.

13. Claims 38-49, 51-52, 64-67, 76-77, 81 are finally rejected under 35 U.S.C. 103(a) as being unpatentable Bjornson in view of Braun et al. (U.S. 6129997) [hereinafter Braun].

Bjornson discloses in Fig. 1 a thermocouple comprising first and second electrically conductive components making a junction 3. The components, inherently, comprise dissimilar metals, which can be platinum-rhodium, iridium-rhenium, tungsten-rhenium (noble) metals coated (made) with zirconia (zirconium oxide sheath) 9 (col. 2, lines 41-45). The device further comprises lead wires (wound conductors 1, 2) to, inherently, transmit the temperature related voltage signal (voltage varying as a function of temperature) to a voltage metering device (transducer), as very well known in the art of thermocouples.

For claim 2: the second component can be iridium-rhenium, thus, comprising rhenium, which is a part of a first component, when the first component is tungsten-rhenium.

For claims 4, 6: the first component can be platinum-rhodium.

For claim 5: the second component can be platinum-rhodium.

For claims 7-8: the second component can be platinum-rhodium alloy, inherently, comprising rhodium.

Bjornson does not teach the particular method of making the conductors, and the remaining limitations of claims 38-49, 51-52, 64-67, 76-77, 81.

Braun discloses a device/ method of manufacturing a material to be used at high temperatures. The material Pt/Rh alloy or an alloy comprising platinum and base metal content wherein a shaped body of platinum material dispersion hardened by finely divided small particles of a base metal oxide wherein the base metal oxide is yttrium. Wherein said body of platinum material is provided inside a tube (main body, noble

metal), so as yttrium oxide particles (inherently within the grain boundaries) contained in the oxide dispersion hardened alloy, as very well known in the art.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the method, as taught by Braun, to make the device, disclosed by Bjornson, so as to obtain a thermocouple capable to sustain high temperatures in a harsh corrosive environment.

The method steps will be met during the normal manufacturing process of the device stated above.

14. Claims 9-13 and 59-60 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Bjornson (U.S. 3462318) in view of Nicoll et al. (U.S. 4675204) [hereinafter Nicoll].

Bjornson discloses the device as stated above in paragraph 3.

Bjornson does not explicitly teach the limitations of claim 9-13 and 51-52.

Nicoll teaches to manufacture a fine-grained oxide dispersion hardened metal material using yttrium since it can tolerate high temperatures. Thus, yttrium oxide particles contained in the oxide dispersion hardened alloy/ superalloy of a component/ matrix (main body).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the method, as taught by Nicoll, to make the device, disclosed by Bjornson, so as to obtain a thermocouple capable to sustain high temperatures in a harsh corrosive environment.

The method steps will be met during the normal manufacturing process of the device stated above.

15. Claims 38-49, 51-52, 64-67, 76-77, 81 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Bjornson (U.S. 3462318) in view of Nicoll et al. (U.S. 4675204) [hereinafter Nicoll].

Bjornson discloses in Fig. 1 a thermocouple comprising first and second components making a junction 3. The components, inherently, comprise dissimilar metals, which can be platinum-rhodium, iridium-rhenium, tungsten-rhenium (noble) metals coated (made) with zirconia (zirconium oxide sheath) 9 (col. 2, lines 41-45). The device further comprises lead wires (wound conductors 1, 2) to, inherently, transmit the temperature related voltage signal (voltage varying as a function of temperature) to a voltage metering device (transducer), as very well known in the art of thermocouples.
For claim 2: the second component can be iridium-rhenium, thus, comprising rhenium, which is a part of a first component, when the first component is tungsten-rhenium.
For claims 4, 6: the first component can be platinum-rhodium.
For claim 5: the second component can be platinum-rhodium.
For claims 7-8: the second component can be platinum-rhodium alloy, inherently, comprising rhodium.

Bjornson does not teach the particular method of making the conductors, with the remaining limitations of claims 38-49, 51-52, 64-67, 76-77, and 81.

Nicoll teaches to manufacture a fine-grained oxide dispersion hardened metal material using yttrium since it can tolerate high temperatures. Thus, yttrium oxide

particles contained in the oxide dispersion hardened alloy/ superalloy of a component/ matrix (main body).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the method, as taught by Nicoll, to make the device, disclosed by Bjornson, so as to obtain a thermocouple capable to sustain high temperatures in a harsh corrosive environment.

The method steps will be met during the normal manufacturing process of the device stated above.

16. Claims 50, 57, 68-71 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Bjornson and Nicoll as applied to claims 9-13, 38-49, 51-52, 59-62, 64-67, 76-77, 81 above, and further in view of MacRitchie.

Bjornson and Nicoll disclose the device as stated above.

They do not explicitly teach the signal conditioner, as stated in claims 50, 57, and 68-71.

MacRitchie teaches to calibrate thermocouples by using standard temperature established by the National Bureau of Standards, inherently, used by National Institute of Standard, aka NIST.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to calibrate the thermocouple using standards, as taught by MacRitchie, in order to achieve more accurate results of measurements, as very well known in the art.

With respect to claim 71: the choice of using the International System of Standards International Electrotechnical Commission reference), as stated in claim 71, to calibrate

thermocouple, absent any criticality, is only considered to be the "preferred" or "optimum" system of standards that a person having ordinary skill in the art at the time the invention was made would have been able to determine using routine experimentation based, among other things, on the intended use of the device, i.e., use the device in Europe would require its calibration according to International Standards. See In re Bosch, 205 USPQ 215 (CCPA 1980).

17. Claims 72-75 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Bjornson and Nicoll as applied to claims 38-49, 51-52, 64-67, 76-77, 81 above, and further in view of Piai.

Bjornson and Nicoll disclose the device as stated above.

They do not explicitly teach the signal conditioner, as stated in claims 72-75.

Piai discloses a device comprises a thermocouple, inherently, having two components, inherently, made of dissimilar materials (platinum/ platinum-rhodium) making a junction 13. Piai teaches to enclose the components in a sheath/ covering 16 separated from the wires by a ceramic electrical and thermal insulation (alumina and zirconia, col. 2, lines 40-41) 14. The thermocouple 3 is connected to electronics (conditioner) 4 (col. 3, lines 1-7 and col. 4, lines 1-5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a conditioner electronics, as taught by Piai, so as to provide the device with a proper interface and make a temperature related signal well corresponding to the temperature being measured, so as to have adequate voltage/

power readable by an electronic circuit, in order to provide the operator with a correct temperature related data.

18. Claim 80 is finally rejected under 35 U.S.C. 103(a) as being unpatentable over Bjornson and Nicoll as applied to claims 38-49, 51-52, 64-67, 76-77, 81 above, and further in view of Stevenson.

Bjornson and Nicoll disclose the device as stated above.

They do not explicitly teach the limitations of claim 80.

Stevenson discloses a thermocouple whose first and second components having an inner protective sheath (refractory insulation) made of alumina or magnesia or a mixture thereof, and an outer protective sheath. Stevenson states that the thermocouple protected in such protection sheath would be able to withstand high (1700 F) temperatures (col. 4, line 18).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the thermocouple usable in a harsh high temperature environment, as taught by Stevenson, because there is a known need to use thermocouples at high temperature environments, i.e., high temperature furnaces, etc.

19. Claims 62-63 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Bjornson and Nicoll as applied to claims 9-13, 59-62 above, and further in view of Hines (U.S. 3767470).

Bjornson and Nicoll disclose the device as stated above.

They do not explicitly teach the limitations of claims 62-63.

Hines teaches a heat flow (heat flux) sensor comprising an array of parallel (or serially) connected thermocouples (thermopile) deposited onto a substrate.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by Bjornson and Nicoll, so as to make a heat flux sensor comprising a thermopile engaging the thermocouples, disclosed by Bjornson and Nicoll, so as to use the device comprising a thermocouple for measuring a heat flux, as very well known in the art.

The method steps will be met during the normal manufacturing process of the device stated above.

20. Claims 78-79 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Bjornson and Nicoll as applied to claims 38-49, 51-52, 64-67, 76-77, 81 above, and further in view of Hines (U.S. 3767470).

Bjornson and Nicoll disclose the device as stated above.

They do not explicitly teach the limitations of claims 78-79.

Hines teaches a heat flow (heat flux) sensor comprising an array of parallel (or serially) connected thermocouples (thermopile) deposited onto a substrate.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by Bjornson and Nicoll, so as to make a heat flux sensor comprising a thermopile engaging the thermocouples, disclosed by Bjornson and Nicoll, so as to use the device comprising a thermocouple for measuring a heat flux, as very well known in the art.

The method steps will be met during the normal manufacturing process of the device stated above.

Response to Arguments

4. Applicant's arguments filed on July 27, 2005 have been fully considered but they are not persuasive.

Applicant states that the references fail to teach electrically conductive components. This argument is not persuasive because, it is very well known from the art of physics, that a thermocouple, by definition comprises two dissimilar electrically conductive metals connected in a hot junction distally and connected to electrically conductive thermocouple legs proximally.

Applicant states that the applied references do not teach the electrically conductive components comprising oxide. Applicant states that the oxide used by the references is a coating. This argument is not persuasive because the oxide as stated by the applied references is a part of the electrically conductive components as claimed by applicant. Please note, that applicant has never claimed the particular location of the oxide (i.e., core, being mixed with other metals of the components, etc.). Furthermore, please note, that in the rejection on the merits, in the broadest reasonable interpretation used by the Examiner, an insulation/ protective covering/ coating on a wire/ thermocouple lead/ leg (electrically conductive component) is considered to be a part of the wire/ thermocouple lead/ leg (electrically conductive component).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gail Verbitsky whose telephone number is 571/ 272-2253. The examiner can normally be reached on 7:30 to 4:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571/ 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Information Disclosure Statement

6. The information disclosure statement filed April 11, 2005 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. In this case, the "European Search Report", 3/7/05 has not been submitted.

GKV

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